

ASCO Power Technologies

ASCO SERIES 300 Power Transfer Switches



## ASCO SERIES 300 Automatic Transfer Switches

Power outages impact small and large facilities alike. ASCO SERIES 300 Automatic Transfer Switches offer rugged design and reliable performance to small and mid-size commercial and industrial facilities in packaged solutions that are easy to select, procure, install, and operate.

Every SERIES 300 generator transfer switch is engineered with ASCO's reliability expertise in a package that makes backup power accessible for small and mid-size facilities. Leveraging knowledge derived from a century of critical power transfer experience, each SERIES 300 is backed by the same ASCO technical support and service that solves the most demanding critical power challenges facing facilities today.

## Product Details

Transfer Switch
Overview



### SERIES 300 Automatic Transfer Switches

#### Designed to Fit Anywhere

The ASCO SERIES 300 product line provides the most compact design of generator power transfer switches in the industry.

Available to mount on walls or floors, all models through 2000 amperes are designed to be completely front-accessible. This permits installation flush against walls while allowing installation of cabling and connections from the front of the switch. Cable entrance plates are standard on 1600 and 2000 amperes units; these allow use of optional side-mounted pull boxes for additional cable bending space.

- 30 through 3000 amperes in compact designs
- Up to 600 VAC, single or three phase
- Listed to UL 1008 Standard for Safety -Transfer Switch Equipment
- True double-throw operation: The single solenoid design is inherently interlocked to prevent simultaneous connections of two power sources.
- Will not transfer to a dead source single solenoid operator derives power from the destination source
- Easy-to-navigate 128x64 graphical LCD display with keypad provides LED indicators for switch position, source availability, not-inauto mode, and alert conditions.
- Integrated, multilingual, user interface for configuration and monitoring
- Available Delayed Transition operation
- Optional Relay Expansion Module with extra relays for accessory outputs

- Soft keys for test function and time delay bypass
- Emergency source failure alert indication
- Optional Historical Event Log
- Displays statistical ATS monitoring information
- · Built-in diagnostic functions
- Password protection to prevent unauthorized actions
- Adjustable delay feature prevents nuisance transfer due to momentary utility power outages and generator dips
- Auxiliary contacts signal position of main contacts - two for normal and two for emergency position
- · Standard solid neutral terminals
- Restriction of Hazardous Substances (RoHS) compliant controller
- Standard 2 year warranty. Optional 1, 2, and 3 year extensions



SERIES 300 Power Transfer Switch rated 200 amps Power Knowledge

Basic Automatic
Transfer Switch
Functions

2

### SERIES 300 Automatic Switching Solutions

#### Automatic and Non-Automatic Transfer Switching

ASCO Transfer Switches are available in both automatic and non-automatic types. Both are electrically operated. For automatic transfer switches, the controller initiates transfer between power sources . For non-automatic transfer switches, a user initiates transfer using local or remote controls.

SERIES 300 non-automatic transfer switches offer the following features:

- Models range from 30 through 3000 amperes, up to 600V
- · Controller prevents inadvertent operation under low voltage conditions
- · Source acceptability lights inform operator when sources are available to accept load
- · Standard in-phase monitor for transferring motor loads betweem live sources

#### Power Knowledge

Non-Automatic and Manual

400 Amp, Type 1

**Applications** 

Transfer Switches for Backup Power

#### **Delayed Transition Transfer Switching**

**Open Transition Transfer Switching** 

· Single-operator switching mechanism

· Available In-Phase Monitor can be

prevents simultaneous connection of

activated for transferring motor loads

ASCO Delayed Transition Transfer Switches transfer loads between power sources using a timed load disconnect position with an adjustable delay.

ASCO Transfer Switches are available with a standard, 2-position, open transition models that reliably transfer loads in less than 100 milliseconds. Open transition switches are suitable for a

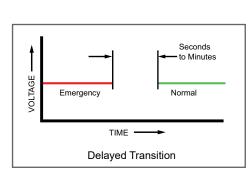
150 through 3000 amps

wide range of applications.

• 30 to 3000 amps

both sources

- · Reliable, field-proven, dual-solenoid operating mechanism
- · Mechanical interlocks to prevent simultaneous connection of both power sources
- · Adjustable delay for load disconnect -0 to 5 minutes
- · Non-automatic models available in manual operation configuration
- Automatic models available with load shed feature

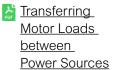


TIME ---

Open Transition

#### Power Knowledge

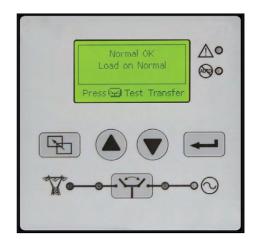
Transition Mode **Basics** 



Transferring Loads with Zero **Power Interruption** 

## SERIES 300 Group G Controller

The SERIES 300 Group G Controller is reliable and field-proven. It provides all of the voltage, frequency, control, timing, and diagnostic functions required for most emergency and standby power applications.



- Touch pad programming
- · Displays active timers
- · On-board diagnostics
- Password protection
- · Voltage and frequency sensing
- · Status and control functions

### **Product** Details

Group G Controller

## Transfer Switch Communications and Metering

Options to Customize Functionality and Increase Value

## Product Details

## 5300 SERIES Annunciators

#### Remote Annunciation

## Monitor Power Equipment Status from Anywhere

Monitoring and control transfer switches from across the room, building, or from Internet.

5310 - LED annunciator - Single ATS

5350 - LED annunciator - up to 8 ATSs





### Communication

## 5140 Connectivity Module

Product

Details

## **Turn Transfer Switches into Power Information Portals**

5140 Connectivity Module – Makes status and power information from a single switch available to via ModBUS, SNMP, and web pages.





#### Metering

Transfer Switches are the Perfect Place to Monitor Power Flow, Power Conditions, and Power Events

5210 Power Meter – Provides deeper insight into circuit status and conditions.



# Product Details

5210 Power Meter

 $_{6}$ 

### SERIES 300 Optional Accessories

Communic	ations							
11BE	Feature Bundle. Programmable engine exerciser with seven independenct routines run the generator with or without loads, on a daily, weekly, bi-weekly, or monthly basis. Controlled from the user interface keypad.  • Event log display shows the event number, time and date, type and reason (if applicable).  • Stores up to 300 events  • RS485 Communication Port enabled common alarm output contact  • On three-phase systems, Accessory 11BE enables line-to-line voltage imbalance sensing and three-phase sensing capabilities for the Emergency power source as well as the Phase Rotation checking for both power sources.							
18RX	Relay Expansion Module provides accessory relays and includes one Form C contact for normal source availability (18G), and one Form C contact for emergency source availability (18B) (contact rating 5 amperes @ 30 VDC or @ 125 VAC resistive) (100 ma, 4 VDC min) Additional output relay is provided the default is to indicate a common alarm.							
72EE	Connectivity module provides remote monitoring and control capabilities and includes accessory 11BE feature bundle							
Environme	nt and Power							
44A	Strip heater with thermostat for cold environment to prevent internal condensation and icing. External 120-volt AC power source required.							
44G	Strip heater with thermostat, wired to load terminals on 208-240, 360-380, 460-480, 550-600 volt models. Contains wiring harnesses for all transfer switch sizes.							
1UP	UPS back up power runs controller and LCD display for 30 seconds without AC power							
Extension	Harness							
Extension 37B	Harness Six-foot extension harness for open type units to accommodate customer mounting of controls and switch							
37B	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch							
37B 37C	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch							
37B 37C Indicators 62W	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch  Nine-foot extension harness for open type units to accommodate customer mounting of controls and switch  Audible alarm with silencing feature to signal transfers to emergency. (For D-frame models, may require oversize enclosure							
37B 37C Indicators 62W	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch  Nine-foot extension harness for open type units to accommodate customer mounting of controls and switch  Audible alarm with silencing feature to signal transfers to emergency. (For D-frame models, may require oversize enclosure depending on accessory combination).							
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37B 37C Indicators 62W Customer 30A	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch  Nine-foot extension harness for open type units to accommodate customer mounting of controls and switch  Audible alarm with silencing feature to signal transfers to emergency. (For D-frame models, may require oversize enclosure depending on accessory combination).  Control Circuits  Load-shed circuit initiated by opening of a customer-supplied contact (Open Transition model only)							
37B 37C Indicators 62W Customer 30A 30B	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch  Nine-foot extension harness for open type units to accommodate customer mounting of controls and switch  Audible alarm with silencing feature to signal transfers to emergency. (For D-frame models, may require oversize enclosure depending on accessory combination).  Control Circuits  Load-shed circuit initiated by opening of a customer-supplied contact (Open Transition model only)  Load-shed circuit initiated by removal of customer-supplied control voltage (Open Transition model only)							
37B 37C Indicators 62W Customer 30A 30B 30AA	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch  Nine-foot extension harness for open type units to accommodate customer mounting of controls and switch  Audible alarm with silencing feature to signal transfers to emergency. (For D-frame models, may require oversize enclosure depending on accessory combination).  Control Circuits  Load-shed circuit initiated by opening of a customer-supplied contact (Open Transition model only)  Load-shed circuit initiated by removal of customer-supplied contact (Open Transition model only)  Load-shed circuit initiated by opening of a customer-supplied contact (Delayed Transition model only)  Load-shed circuit initiated by removal of customer-supplied control voltage (Delayed Transition model only)							
37B 37C Indicators 62W Customer 30A 30B 30AA	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch  Nine-foot extension harness for open type units to accommodate customer mounting of controls and switch  Audible alarm with silencing feature to signal transfers to emergency. (For D-frame models, may require oversize enclosure depending on accessory combination).  Control Circuits  Load-shed circuit initiated by opening of a customer-supplied contact (Open Transition model only)  Load-shed circuit initiated by removal of customer-supplied contact (Open Transition model only)  Load-shed circuit initiated by opening of a customer-supplied contact (Delayed Transition model only)  Load-shed circuit initiated by removal of customer-supplied control voltage (Delayed Transition model only)							
37B 37C Indicators 62W Customer 30A 30B 30AA 30BA Surge Prof	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch  Nine-foot extension harness for open type units to accommodate customer mounting of controls and switch  Audible alarm with silencing feature to signal transfers to emergency. (For D-frame models, may require oversize enclosure depending on accessory combination).  Control Circuits  Load-shed circuit initiated by opening of a customer-supplied contact (Open Transition model only)  Load-shed circuit initiated by removal of customer-supplied control voltage (Open Transition model only)  Load-shed circuit initiated by opening of a customer-supplied contact (Delayed Transition model only)  Load-shed circuit initiated by removal of customer-supplied control voltage (Delayed Transition model only)							
37B 37C Indicators 62W Customer 30A 30B 30AA 30BA Surge Prot	Six-foot extension harness for open type units to accommodate customer mounting of controls and switch  Nine-foot extension harness for open type units to accommodate customer mounting of controls and switch  Audible alarm with silencing feature to signal transfers to emergency. (For D-frame models, may require oversize enclosure depending on accessory combination).  Control Circuits  Load-shed circuit initiated by opening of a customer-supplied contact (Open Transition model only)  Load-shed circuit initiated by removal of customer-supplied control voltage (Open Transition model only)  Load-shed circuit initiated by opening of a customer-supplied contact (Delayed Transition model only)  Load-shed circuit initiated by removal of customer-supplied control voltage (Delayed Transition model only)							

#### Field Conversion Kits

options 23GA or 23GB.

Kit No.	Description						
935147	Advanced Function Bundle Retrofit Kit (11BE) - See above accessory 11BE description for details.						
935148	REX Module with Source Availability Contacts (Acc. 18RX)						
935149	UPS to allow controller to run for 30 seconds minimum without AC Power (Acc. 1UP)						
935150	1/3 Phase load current sensing card only (Acc. 23GA/GB)						
K613127-001	Strip Heater (125 watt) 120 volt (Acc. 44A)						
K613127-002	Strip Heater (125 watt) 208-480 volt (Acc. 44G)						
948551	Quad-Ethernet Module (Acc. 72EE)						
K609027	Cable Pull Box (1600-2000 amperes)						

### Withstand and Close-on Ratings

Withstand and Close-on Ratings for all 7000 SERIES Power Transfer Switches, including 0.5 second (30-cycle) designs.

Frame	Switch Rating (Amps)		Current Limiting Fuses			Specific Breaker			Time Based				Short Time Ratings <sup>3</sup> (sec)					
	Transfer Switches	Bypass Switches	480V Max.	600V Max.	Max Size, A	Class	240V Max.	480V Max.	600V Max.	Time (sec)	240V Max.	480V Max.	600V Max.	.13 .2	$\overline{}$	.5	.1 .13 .3	
		-	100kA	-	300	J	001.4	25kA	10kA	0.025	10kA	10kA	10kA	-				
D	30		200kA 35kA	35kA 35kA	200 200	J RK1	22kA										-	
			35kA 35kA	35kA 35kA	200	RK1	150kA 85kA											
D	70, 100	-	200kA	35kA	200	J		25kA	0.025	10kA	10kA	10kA	-			-		
			35kA	35kA	200	RK1	150kA 85kA 25k	_	kA 0.025	1.025 10kA	A 10kA	10kA						
D	150	-	200kA	35kA	200	J		25kA					-			-		
_	000		200kA	35kA	200	J	0001.4	85kA 14kA	4.41.4	0.005	401-4	10kA	10kA	-			-	
D	200	-	35kA	35kA	200	RK1	200kA		14KA	0.025	10kA							
D	230	-	100kA	-	300	J	200kA	85kA	14kA	0.025	10kA	10kA	-	-			-	
Е	260, 400	-	200kA	-	600	J	65kA	42kA	22kA	0.05	35kA	35kA	22kA	-		-		
J	150, 200, 230,	150, 200, 230, 260	200kA	200kA	600	J	200kA	200kA 1	100kA	0.05	65kA	42kA <sup>5</sup>	35kA	7.5kA -			-	
	260				800	L												
J	400	400	200kA	200kA	600 800	J L	200kA	200kA	100kA	0.05	65kA	42kA <sup>5</sup>	35kA	7.5kA	-		-	
J	600	600	200kA	200kA	800	L	200kA	200kA 200kA	100kA	0.05	6EL V	65kA 42kA <sup>5</sup>	35kA	7.5kA <sup>9</sup> -			_	
	000	000	200kA	200kA	600	J					UJKA		JUNA	7.5KA				
H <sup>8</sup>	600	600	200kA	200kA	1600	L	65kA	150kA <sup>6</sup>	65kA	0.05	50kA	50kA	50kA	36kA		-	36kA	-
P <sup>8</sup>	600	600	200kA	200kA	1600	L	65kA	150kA <sup>6</sup>	65kA	0.05	50kA	50kA	50kA	36kA	30	)kA	36kA	-
P <sup>8</sup>	800	800 - 1200	200kA	200kA	1600	L	65kA	150kA <sup>6</sup>	65kA	0.05	50kA	50kA	50kA	36kA	30	)kA	36kA	-
Н	800 - 1200	800 - 1200	200kA	200kA	1600 <sup>4</sup>	L	65kA	150kA	65kA	0.05	50kA	50kA	50kA	36kA		-	36kA	-
Q <sup>8</sup>	600-1600	600-1600	200kA	200kA	2000	L	65kA	65kA	65kA	0.05	65kA	65kA	65kA	50	kA	50kA		
S <sup>8</sup>	800 - 1200	800 - 1200	200kA	200kA	2500	L	100kA	100kA	65kA	0.05	100kA	100kA	65kA	65	kA		65kA	
G <sup>8</sup>	1000 - 1200	1000 - 1200	200kA	200kA	2000	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	-		-		
G	1600 - 2000 (Front	Connected TS Only)	200kA	200kA	2500	L	85kA	85kA	85kA	0.05	85kA	85kA	85kA	42kA	36	ŝkΑ		
G <sup>8</sup>	1600 - 2000	1600 - 2000	200kA	200kA	3000	L	200kA	200kA	100kA	0.05	100kA	100kA	100kA	42kA	36	βkΑ	42kA -	
S <sup>8</sup>	1600 - 2000	1600 - 2000	200kA	200kA	2500	L	100kA	100kA	85kA	0.05	100kA	100kA	85kA	85kA	65	kΑ	85kA	65kA
G	2600 - 3000	2600 - 3000	200kA	200kA	4000	L	125kA <sup>6</sup>	125kA <sup>6</sup>	100kA	0.05	100kA	100kA	100kA	42kA	36	ŝkΑ	42kA	T - 1
G <sup>8</sup>	3200	-	200kA	-	4000	L	100kA	100kA	-	0.05	100kA	100kA	-		-		-	$\neg$
G	4000	4000	200kA	200kA	5000	L	100kA	100kA	100kA	0.05	100kA	100kA	100kA	85KA	65kA	65kA		4
U <sup>8</sup>	2600 - 4000	2600 - 4000	200kA	200kA	5000	L	125kA	125kA	125kA	0.05	125kA	125kA	125kA	100	)kA	100kA		

#### Notes:

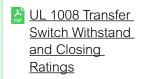
- 1. All WCR values indicated are tested in accordance with the requirements of UL 1008, 7th Edition. See ASCO Pub. 1128 for more WCR information
- 2. Application requirements may permit higher WCR for certain switch sizes.
- 3. Short Time ratings are provided for applications involving circuit breakers that utilize trip delay settings for system selective coordination
- 4. Max fuse rating is 1200A on front connected H frame switches
- 5. Switches utilizing overlapping neutral (code "C") have 35kA, 0.050 Sec time based rating at 480V Max
- 6. Rating shown is for Bypass switches only, Transfer Switch rating is 100kA for the G frame and 65kA max for the H and P frames. See ASCO Pub. 1128.
- 7. See ASCO for Service Entrance Switch ratings
- 8. These frames are only available on the 7000 Series product
- 9. Short Time Rating applies to 600A Bypass switch only, the 600A Transfer Switch does not have a Short Time Rating

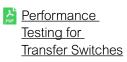
All units are RMS Symmetrical Amperes.

All Withstand and Close-on Rating (WCR) values are established by testing in accordance with UL 1008. For the latest ratings, including transfer switch ratings when used with specific circuit breakers, see <u>ASCO Publication 1128</u> for more WCR information.

Application characteristics may permit higher WCRs for certain switch sizes. Contact ASCO Power Technologies for more information.

### Power Knowledge





#### Additional SERIES 300 Product Information

Transfer Switches and Panels	Controls	Technical Information
Manual Transfer Switch	Group G Controller	Withstand and Closing Ratings
Manual Transfer Switch with Quick Connects		Weights and Dimensions and Ordering Info
Quick Connect Power Panel		<u>Drawings</u>
Dual Purpose Quick Connect Power Panel		Wiring Diagrams

8

# SERIES 300 Manual Transfer Switching and Quick Connection Solutions

ASCO SERIES 300 Manual Transfer Switching and Quick Connection Solutions offer reliable service and application flexibility for a wide range of facilities.

#### Manual Transfer Switches



- Three-position, easy-to-use center-off switch
- Compact design easy to install and maintain
- Designed to handle demands of motors and inrush currents

#### Power Knowledge

Differences
Between Manual,
Non-Automatic, &
Automatic Transfer
Switches

## Product Details

SERIES 300

Manual Transfer

Switch

#### **Quick Connect Panels**



- Listed to UL 1008 Transfer Switch Accessory standard
- Utilizes standard Cam-Lok™ receptacles for quick connections
- Standard Type 3R construction is weatherproof with or without cable
- Utilizes standard Series 16 Single Pole quick connect receptacles

#### Power Knowledge

MEC Requirement
for Permanent
Manual Switching
Means

## Product Details

SERIES 300
Quick Connect
Power Panel

#### Manual Transfer Switches with Quick Connects



- The ASCO SERIES 300 Manual Transfer Switch with Integrated Quick Connects provides a total temporary power connection and transfer solution
- Enables connection and control of a temporary or portable generator
- Provides a complete UL 1008-listed solution in a single unit

## Product Details

SERIES 300

Manual Transfer

Switch with Quick

Connects

#### Dual-Purpose Manual Transfer Switches with Quick Connects



- Provides both supplemental backup power and load testing connectivity through a single device.
- Listed by ETL to UL 891
- Utilizes standard Series 16 Single Pole quick connect receptacles

# Product Details

SERIES 300 Dual
Purpose Quick
Connect Power
Panel

10 11

